

FROM NIXON & VANDERHYE PC1
STIRLING et al
Appl. No. 09/373,980
August 5, 2003

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REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

The Examiner is thanked for noting the requirement to file a certified copy of applicant's priority documents. This will be attended to in a timely manner.

In response to the Examiner's citation of guidelines for headings throughout the specification, such headings have now been added throughout the specification.

The rejection of claims 67-70, 72-75, 79-82 and 84-87 under 35 U.S.C. §112, second paragraph is respectfully traversed.

The Examiner acknowledges that both the high rate segment and the low rate segment have the same control data in the exemplary embodiment (two control bits CF0 and CF1 as depicted in Figures 9 and 10 and as described at page 24, lines 15-20). Although not mentioned by the Examiner, the same Figures 9 and 10 (and corresponding portions of the specification) clearly describe both the high rate segment and the low rate segment frames as having equal frame periods of 11.35 microseconds. Nevertheless, the Examiner (erroneously) alleges:

"...However, the data rates for control information are not constant because of different transmission rate between two segments. Therefore, the limitation "data rate for control information being constant between the first and the second segments" should have been changed to "data for control information being constant between the first and second segments"."

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Since exactly the same number of bits per unit time are being transmitted for control information in both the high rate segment and the low rate segment frames, the applicants' chosen description of the data rate being the same for both segments is accurate and not in any way indefinite -- nor does it in any way fail to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. It is respectfully requested that this ground of rejection be withdrawn.

The rejection of claims 66-89 under 35 U.S.C. §103 as allegedly being made "obvious" based on "admitted prior art" in view of Taniguchi '720 is respectfully traversed.

Applicant's claimed invention is directed to solving problems of compatibility between different data rate devices connected to a common ring data network. Taniguchi '720 is basically irrelevant to applicant's claimed invention. In particular, Taniguchi is directed to multi-ring network having various designs features for enhancing the reliability of communications from one distant point to another distant point (e.g., even in the event of an unexpected severance of one or more communication links between distant nodes). In essence, there are multiple duplicative links provided between the various nodes with at least some nodes having a "time slot interchanger 18" capable of transferring data loads from one physical transmission line to a different physical transmission line as data traffic passes through the node.

The Examiner seems to focus on Taniguchi's Figures 10 and 11 and alleges that transmission link 61 has a higher data rate than transmission links 62 and 63. However, it appears that the transmission link 61 itself is composed of five separate duplicative 6M data rate transmission lines L1 through L5 with time slot interchanger 18 being capable of selectively transferring traffic from specified time slots of any one of these five incoming transmission lines to any desired time slot on any one of the other outgoing transmission lines 62 or 63 (or to one of three additional lines to three additional nodes not explicitly shown in the drawing, e.g., see column 12, lines 14-16). That is, it does not appear that any one of the incoming 6M lines L1-L5 on composite "line" 61 have any different data rate than any one of the outgoing 6M data transmission lines 62, 63, etc.

In any event, an artisan of ordinary skill in the art would view Taniguchi '720 as directed to an entirely different problem (i.e., overall network reliability) than is the present invention (e.g., flexibility in handling new higher data rate devices while still retaining compatibility with other lower, older, data rate devices in a common ring network). If the skilled artisan was asked to modify the "admitted prior art" with the Taniguchi '720 teaching, then one would expect that skilled person to add duplicative data links and time slot interchangers at certain nodes for flexibility in routing data over different physical paths, etc. There clearly would be no suggestion of the applicant's claimed invention which permits different segments of a common ring network to be effectively operating at different data rates while retaining compatibility between older

lower data rate devices and newer higher data rate devices being concurrently serviced by the same ring network.

As clarified in the amended claims, differing user data requirements are accommodated while preserving the integrity of control data around the network. The control data rate does not change. This allows the slowest station to respond properly, which may be an older design or lower-cost product incorporated in a ring with higher performance products. See in particular the description on page 1, lines 20-24 in the specification and the more detailed description on page 21, line 3 to page 22, line 13.

This brings important benefits in practice. When introducing new features to a motor vehicle design, for example, the manufacturer of the motor vehicle wants (a) to minimize cost by using common components with previous and concurrent vehicles of other design and (b) to minimize the technological risk associated with a new product design, CD changer, amplifier, etc., when an existing product has been through the necessary approvals process and has been found to work.

The invention as defined in the amended claims provides a combination of features which permits this to happen and which combination is neither disclosed nor suggested in Taniguchi, either alone or in combination with the admitted prior art.

For example, Taniguchi does not appear to describe any convenient method by which nodes can exchange control messages through a shared control channel. On the

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contrary, it appears to be assumed that each station is configured by some external means to act as a terminal for adding or "dropping" data. To the extent that signalling for the control of these searching functions might be conveyed through the network itself, this also would need to be by pre-arranged connections, and there is no suggestion that a shared control channel should be established, having a constant data rate around the ring.

In the amended claims, features from claims 67, 68 and 69 have been incorporated into independent claim 66. Equivalent amendments have been made in the other independent claims. An added recitation requires the control message sub-frames to form a control channel shared by all stations of the ring network. The claims define a system in which the controlled payload data (or effective payload data rate) may not be constant, but, indeed, the control data rate is constant in all segments. In this way control functions of a slower device can communicate reliably and without adaptation with control functions included in a faster device, and buffering and routing of control information is not required.

The Examiner's further comments with respect to dependent claims are also believed to be clearly erroneous -- for reasons that should be at least partly apparent from the above discussion.

Attention is also directed to new claim 90 which is perhaps more succinctly directed to the herein elected, patentably distinct, aspect of applicant's method for

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operating a ring data communications network so as to enable expansion of network capacity while maintaining compatibility with service devices having different payload data rates.

Accordingly, this entire application is now believed to be in allowable condition and a formal Notice to that effect is respectfully solicited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: Larry S. Nixon
Larry S. Nixon
Reg. No. 25,640

LSN:vc
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100

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